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# THE BULLETIN OF ZOOLOGICAL NOMENCLATURE

1 MAY 1954

The Official Organ of

## THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

**FRANCIS HEMMING, C.M.G., C.B.E.**

*Secretary to the International Commission on Zoological Nomenclature*

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## BULLETIN OF ZOOLOGICAL NOMENCLATURE

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### NOTICES PRESCRIBED BY THE INTERNATIONAL CONGRESS OF ZOOLOGY

The following notices are given in pursuance of decisions taken, on the recommendation of the International Commission on Zoological Nomenclature (see 1950, *Bull. zool. Nomencl.* **4**: 51-56, 57-59), by the Thirteenth International Congress of Zoology, Paris, July 1948 (see 1950, *Bull. zool. Nomencl.* **5**: 5-13, 131).

#### (a) Date of commencement by the International Commission on Zoological Nomenclature of voting on applications published in the "Bulletin of Zoological Nomenclature"

NOTICE is hereby given that normally the International Commission will start to vote upon applications published in the *Bulletin of Zoological Nomenclature* on the expiry of a period of six calendar months from the date of publication in the *Bulletin* of the applications in question. Any specialist who may desire to comment upon any of the applications published in the present Part (Vol. 9, Part 6) of the *Bulletin* is accordingly invited to do so in writing to the Secretary to the Commission, as quickly as possible and in any case, in sufficient time to enable the communication in question to reach the Secretariat of the Commission before the expiry of the six-month period referred to above.

#### (b) Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in certain cases

NOTICE is hereby given that the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers is involved in

## Notices prescribed by the International Congress of Zoology (continued)

applications published in the present Part of the *Bulletin of Zoological Nomenclature* in relation to the following names:—

- (1) *immigrans* Sturtevant, 1921, as published in the combination *Drosophila immigrans* (Cl. Insecta, Order Diptera), validation of (Z.N.(S.)711);
- (2) *pruni* Geoffroy, 1762, as published in the combination *Aphis pruni* (Cl. Insecta, Order Hemiptera), validation of (Z.N.(S.)428);
- (3) *Lachnus* Burmeister, 1835, and *Cinara* Westwood, 1835, designation of type species for, in harmony with accustomed usage (Cl. Insecta, Order Hemiptera) (Z.N.(S.)174).

**2.** Comments received in sufficient time will be published in the *Bulletin*: other comments, provided that they are received within the prescribed period of six calendar months from the date of publication of the present Part, will be laid before the International Commission on Zoological Nomenclature at the time of commencement of voting on the application concerned.

**3.** In accordance with the procedure agreed upon at the Session held by the International Commission on Zoological Nomenclature in Paris in 1948 (see 1950, *Bull. zool. Nomencl.* **4** : 56), corresponding Notices have been sent to the serial publications "Nature" and "Science."

FRANCIS HEMMING,

*Secretary to the International Commission on  
Zoological Nomenclature.*

28 Park Village East, Regent's Park,  
LONDON, N.W.1, England.

11th May 1954.

**PROPOSED USE OF THE PLENARY POWERS TO SUPPRESS THE SPECIFIC NAME "BROUNI" HUTTON, 1901, AS PUBLISHED IN THE COMBINATION "DROSOPHILA BROUNI," FOR THE PURPOSE OF PRESERVING THE SPECIFIC NAME "IMMIGRANS" STURTEVANT, 1921, AS PUBLISHED IN THE COMBINATION "DROSOPHILA IMMIGRANS" (CLASS INSECTA, ORDER DIPTERA)**

Joint Application by :—

ERNST MAYR

(Curator, Whitney-Rothschild Collection, The American Museum of Natural History, New York)

J. T. PATTERSON

(Professor of Zoology, University of Texas, Austin, Texas)

MARSHALL P. WHEELER

(Assistant Professor of Zoology, University of Texas, Austin, Texas)

WARREN P. SPENCER

(Professor of Biology, College of Wooster, Ohio)

**(Commission's reference Z.N.(S.)711)**

The purpose of the present application is to ask the International Commission on Zoological Nomenclature to use its Plenary Powers to suppress the name *brouni* Hutton, 1901, as published in the combination *Drosophila brouni*, for the purpose of preserving the well-known name *immigrans* Sturtevant, 1921, as published in the combination *Drosophila immigrans*. The facts of this case are set out below.

**2.** In a recent study of New Zealand DROSOPHILIDAE (1952, *Trans. Proc. Roy. Soc. New Zealand* **79** : 514-515), Roy A. Harrison proposes to place the name *Drosophila immigrans* Sturtevant, 1921 (*Carnegie Inst. Washington, Publ. No. 301* : 83) in the synonymy of *Drosophila brouni* Hutton, 1901 (*Trans. New Zealand Inst.* **33** : 91). The present applicants believe that to accept this proposal would greatly disturb uniformity and stability of zoological nomenclature, particularly since the zoological identity of the species on which these names are based is by no means unequivocally established. Any action on these names must take the following facts into consideration.

**3.** The original description of *Drosophila brouni* Hutton is taxonomically worthless. It does not contain a single statement that would permit identification of the nominal species *Drosophila brouni* as a member of the *D. immigrans* group, or even of the genus *Drosophila*.

**4.** The type specimen of *D. brouni* is still in existence (Harrison, 1952), but it is a female. Females in several species in the *Drosophila immigrans* group cannot be distinguished on the basis of a study of external characters, even when they are alive, much less on the basis of a single, old, dried, pinned specimen.

**5.** There are fifteen to twenty names available for presumed *immigrans*-like species in the Pacific area. The group has not yet been monographed, nor genetically or cytologically analysed. No one knows how many species there really are or what their proper names are. The Pacific appears to be the centre of diversity of this group.

**6.** The type specimen of *Drosophila brouni* was collected more than fifty years ago. Although flies have recently been caught in New Zealand which produce fertile offspring with U.S. *Drosophila immigrans* and presumably belong to this species, this does not prove that they belong to the same species-population as the type specimen of *Drosophila brouni* Hutton. It is not known how many members of the Pacific *immigrans*-group may occasionally reach New Zealand, and, in view of the rapid changes in the New Zealand biota, it is possible that different species of *Drosophila* were predominant fifty years ago than are now.

**7.** The name *immigrans* is not only the name of a well-known species, but it is also the "type species" of an important subdivision of the genus *Drosophila*, "The *immigrans* group of species." A revision of this group is now in progress and it is possible that the nominal species *Drosophila immigrans* Sturtevant will be found to be a composite of several sibling species. Nevertheless, the name *immigrans* ought to be preserved for a species of this important group, regardless of the ultimate taxonomic definition of the species *Drosophila immigrans* Sturtevant. If necessary, an explanatory note should be added to the entry on the *Official List* of the name *immigrans* Sturtevant, as soon as the species so named has been fully defined.

**8.** The name *Drosophila immigrans* is universally known in the biological literature and has been used in literally hundreds of papers. For the entire period since 1921 during which the species has been studied in genetics no name other than *immigrans* has been used for it. The name *immigrans* is thus so firmly in the biological literature that it would be confusing in the extreme to replace it by the name *brouni*, aside from the many above-mentioned uncertainties regarding the species to which the latter name applies.

**9.** The present applicants accordingly petition the International Commission on Zoological Nomenclature to use its Plenary Powers to prevent the discard of the universally known name *immigrans* Sturtevant by suppressing the name *brouni* Hutton. The action which the International Commission is now asked to take is that it should :—

- (1) use its Plenary Powers to suppress the name *brouni* Hutton, 1901, as published in the combination *Drosophila brouni*, for the purposes of the Law of Priority but not for those of the Law of Homonymy ;
- (2) place the foregoing name on the *Official Index of Rejected and Invalid Specific Names in Zoology* ;
- (3) place the name *immigrans* Sturtevant, 1921, as published in the combination *Drosophila immigrans*, on the *Official List of Specific Names in Zoology*.

**PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE SPECIFIC NAME "PRUNI" GEOFFROY, 1762, AS PUBLISHED IN THE COMBINATION "APHIS PRUNI" (CLASS INSECTA, ORDER HEMIPTERA)**

By F. C. HOTTES  
(Grand Junction, Colorado, U.S.A.)

**(Commission's reference Z.N.(S.)428)**

The present application arises out of the decision taken by the International Commission on Zoological Nomenclature in July 1948 that Geoffroy in his *Histoire abrégée des Insectes qui se trouvent aux Environs de Paris*, published in 1762, did not consistently apply the principles of binominal nomenclature and therefore that no name published in the foregoing work acquires availability under the Law of Priority in virtue of having been so published (1950, *Bull. zool. Nomencl.* 4 : 366-369) and in particular from Point (2) of that decision where the International Commission agreed to consider separately, Order by Order, any cases where, as the result of the foregoing decision, names in common use were found not to be available and where therefore it was desirable that the Commission should use its Plenary Powers to validate the names in question and so to avoid the confusion and name-changing which would otherwise be unavoidable.

**2.** Aphid taxonomists are not affected by the foregoing decisions, so far as they relate to generic names. They are, however, very much affected as regards one specific name which was published by Geoffroy in binominal form, although in the work in question he did not apply generally the principles of binominal nomenclature. This name is *Aphis pruni* Geoffroy, 1762 (*Hist. abrég. Ins. Paris* 2 : 497). This name is of importance, because it is the oldest name which unquestionably applies to the Mealy Plum Aphid.

**3.** Geoffroy did not actually describe the species to which he applied the name *Aphis pruni*, but he gave a reference to Réaumur (1737, *Mém. Hist. Ins.* 9 (3) : 317) who gave an excellent description of the Mealy Plum Aphid. The name *Aphis pruni* Geoffroy is thus firmly based upon an unquestionable identification.

**4.** The Mealy Plum Aphid is the type species of the genus *Hyalopterus* Koch, [1854] (*Die Pflanzenläuse-Aphiden* 1 : 16). *Aphis pruni* Fabricius (an erroneous citation for *Aphis pruni* Geoffroy, since Fabricius did not publish this as a new name, merely using Geoffroy's name) having been selected as the type species of this genus by Passerini (1860, *Gli Afidi* (ed. 2) : [27]). (The name *Hyalopterus* is commonly treated as having been published in 1857, but this is incorrect. Koch's book was published in four *Hefte*, of which the last was published in 1857 and the first in 1854. The name *Hyalopterus* occurs in the first *Heft* and should therefore be dated 1854.)

**5.** The Mealy Plum Aphid has been known under a large number of different specific names, its nomenclature having been exceptionally unstable. Smith (L.M.) (1936, *Hilgardia* 10 (7) : 167-209), who applied the name *Hyalopterus pruni* (Geoffroy) to this species, made a careful review of the literature relating

to this species, in the introduction to which he wrote : " The scientific name of this species has been changed repeatedly ; in fact, if each of the following authors is recognised, the status of the name has been changed twenty-one times, in the course of which the species has been described eight times as new. This review of the taxonomy does not include many of the lesser notes of an economic nature, which give *Hyalopterus arundinis* (Fabr.) priority over *H. pruni* (Fabr.) and vice versa." It will be immediately evident, therefore, how urgent it is that the name to be applied to this important economic insect should be stabilised without further delay.

**6.** If the name *Aphis pruni* Geoffroy, 1762, were not now to be validated by the International Commission under the procedure foreshadowed at its Paris Session, it would be necessary to consider the question of the name *Aphis arundinis* Fabricius, 1775 (*Syst. Ent.* : 734). After giving this species the foregoing binominal name in the manner adopted throughout this work (i.e. with the generic name at the head of the page and the specific name in the margin opposite the description), Fabricius referred to this species as *Aphis arundinis epigeios*, giving its habitat as " *Habitat in arundinis epigeios foliis*" and completing the description of this species with a short Latin diagnosis. Although in the past this nominal species has frequently been identified with the Mealy Plum Aphid, it is by no means established that this identification is correct. In particular, it must be noted that Fabricius gave *Arundo epigeios* as the host species of *Aphis arundinis* and that this plant, as Börner (1932, *Anz. Schädlingsk.* **8** (8) : 8-11) has shown, is a hard-leaved sandgrass belonging to the group Agrostideae, which is not at all closely related to the group Festuceae, to which belong the only known alternate host plants of the Mealy Plum Aphid. In spite of repeated search on plants of *Calamagrostis epigeios* (the currently accepted scientific name of the host species cited by Fabricius), Börner was unable to find the Mealy Plum Aphid on this species. For this reason and because of the nature of the plant, Börner concluded that it was not a host plant for this species. Smith (L.M.) (1936, *Hilgardia* **10** (7) : 196-203), after a most careful study of the host plants of this species, concluded ( : 201) that *Calamagrostis epigeios* must be rejected as a host plant of the Mealy Plum Aphid.

**7.** For so long as any doubt remains regarding the identity of the species represented by the nominal species *Aphis arundinis* Fabricius, 1775, it would be undesirable in the highest degree to allow a situation to arise in which it could be claimed that the specific name *arundinis* Fabricius, 1775, is the oldest available specific name for the Mealy Plum Aphid, for there would always be the danger that later work might show that this name was not applicable to that species and, in consequence, that still another change would need to be made in the name to be used for this species. The extreme importance of providing a stable nomenclature for this species arises not only from the economic problems involved, wherever this species occurs, but also from its wide distribution. The importance of this latter factor is well brought out in the following passage in which Smith (L.M.) (1936, *loc. cit.* **10** (7) : 170-171) has shown how extremely widespread is this species : " *Hyalopterus pruni* (Geoff.) has been frequently reported in many sections of the world, and particularly in the north temperate zone. It has been reported in Africa (Union of South Africa), Australia, Belgium, Canada, China, Denmark, Egypt, England, France,

Germany, India, Ireland, Italy, Japan, Java, Latvia, Morocco, New Zealand, Norway, Palestine, Peru, Portugal, Russia, Scotland, Slavonia, Sweden and Switzerland . . . In the United States this species was first reported from the vicinity of Carmel, California, in 1881. It was reported in Minnesota in 1885. At present it is known to occur in California, Colorado, Connecticut, Illinois, Iowa, Kansas, Maine, Minnesota, Nebraska, Nevada, New Jersey, New York, Ohio, South Dakota and Utah."

**8.** In view of the economic importance of the Mealy Plum Aphid, it is essential that there should be no room for doubt regarding its correct specific name. The specific name now accepted for this species is *pruni* Geoffroy, 1762, as published in the combination *Aphis pruni*, but, as is now clear, that is not an available name, unless the International Commission steps in to make it so, by validating it under its Plenary Powers under the procedure envisaged in Paris in 1948. It is very important that the International Commission should intervene in this way, for confusion extending far outside the limits of systematic zoology would inevitably follow if it were necessary now to discard the specific name *pruni* Geoffroy, 1762. The risk of confusion and instability is always great when the name of an important economic species is changed for purely technical nomenclatorial reasons (such as those involved in the present instance) but the risk of such confusion and instability is greatly enhanced in the present instance by reason of the fact that, as explained in paragraph 6 above, the next oldest name after *pruni* Geoffroy, 1762, that has to be considered is a name (*arundinis* Fabricius, 1775, published in the binomial combination *Aphis arundinis*) applied to a species which cannot be identified with certainty with the Mealy Plum Aphid. Thus, if no action were to be taken by the International Commission, finality could not be obtained regarding the correct name to be applied to this species.

**9.** It is for the purpose of eliminating these dangers and avoiding these uncertainties that the International Commission on Zoological Nomenclature is now asked :—

- (1) under the procedure agreed upon by the Thirteenth International Congress of Zoology, Paris, 1948, for adoption in the case of names in common use that might be found to be invalid, consequent upon the substitution of the expression "nomenclature binomial" for the expression "nomenclature binaire" in Article 25, to use its Plenary Powers to validate the specific name *pruni* Geoffroy, 1762 (as published in the combination *Aphis pruni* and as interpreted by the reference given by Geoffroy to the description published by Réaumur in 1737 (*Mém. Hist. Ins.* 9 (3) : 317));
- (2) to place on the *Official List of Specific Names in Zoology* the specific name *pruni* Geoffroy, 1762, as published in the combination *Aphis pruni* and as interpreted by the reference to Réaumur (1737) specified by Geoffroy, as proposed, under (1) above, to be validated under the Plenary Powers ;
- (3) to place on the *Official List of Generic Names in Zoology* the generic name *Hyalopterus* Koch, 1854 (type species, by selection by Passerini (1860) : *Aphis pruni* Geoffroy, 1762).

**PROPOSED ADDITION TO THE "OFFICIAL LIST OF SPECIFIC NAMES IN ZOOLOGY" OF THE SPECIFIC NAME "PINI" LINNAEUS, 1758, AS PUBLISHED IN THE BINOMINAL COMBINATION "APHIS PINI" AND AS INTERPRETED BY DE GEER (1773) (CLASS INSECTA, ORDER HEMIPTERA)**

By F. C. HOTTES

(*Grand Junction, Colorado, U.S.A.*)

**(Commission's reference Z.N.(S.)547)**

**I. Introductory**

In the present application I examine the various discordant ways in which the nominal species *Aphis pini* Linnaeus, 1758, has been interpreted by subsequent authors and draw attention to the first occasion subsequent to Linnaeus (1758) on which a reviser definitely established the identity of the taxonomic species represented by the nominal species *Aphis pini* Linnaeus, 1758, and ask that the International Commission on Zoological Nomenclature should now place the specific name *pini* Linnaeus, 1758, as published in the binominal combination *Aphis pini*, as applied to the species referred to above, on the *Official List of Specific Names in Zoology*. That an authoritative decision should be given on the foregoing question is of importance not only for the purpose of stabilising the manner in which the nominal species *Aphis pini* Linnaeus should be interpreted, but also from the wider point of view of determining the identity of the species commonly regarded as the type species of the genus *Cinara* Curtis, 1835, a subject on which also I have submitted an application to the International Commission (Z.N.(S.)174).

**2.** Before approaching the main subject of the present application, it is necessary to dispose of a preliminary matter relating to the status of the name *Aphis pini* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) 1 : 453). Linnaeus there gave no verbal description of this species, beyond saying "*A. Pini sylvestris*" and adding "Habitat in *Pino sylvestri*." As will be seen a large part of the discussion which has since taken place regarding the identity of the Linnean species has turned on the impossibility of determining which of the several species which live on *Pinus sylvestris* Linnaeus had before him when he published the name *Aphis pini*. It must however be observed at this point that, if in fact Linnaeus had done nothing more than cite the host species of his *Aphis pini*, the name *Aphis pini* Linnaeus, 1758, would have to be regarded as a *nomen nudum*, for the International Congress of Zoology have ruled (and, indeed have decided to insert provisions in the *Règles* to make it clear) that "the citation of the name of a host species . . . unaccompanied by any other particulars does not constitute an 'indication' for the purposes of Article 25" (1950, *Bull. zool. Nomencl.* 4 : 256). Fortunately, however, closer inspection of the entry in the *Systema Naturae* under the name *Aphis pini* shows that Linnaeus did give some additional particulars, for he there gave a bibliographical reference, as follows, to the first edition of his own

*Fauna svecica* ; " *Fn. svec.* 718." Reference to the passage quoted shows that, after repeating that this species lives in " our *Pinus* 788," added the following words descriptive of the species itself: " *Appendiculi brevissimi.*" The citation in 1758 of a reference to his earlier *Fauna svecica* incorporates into the 10th edition of the *Syst. Nat.* the brief description given in the *Fauna svecica* of the species named *Aphis pini* in 1758. Thus, contrary to what has commonly been stated, the name *Aphis pini* Linnaeus, 1758, is not a *nomen nudum*, but is an available name, having been published with a brief " indication."

3. It is necessary next to consider the status of a name (such as *Aphis pini* Linnaeus, 1758), which is an available name in the sense that it was published with an " indication " but which presents difficulties of interpretation, in view of the fact that the " indication " given is not sufficient, taken by itself, to make it possible to determine to which of several allied species the name should adhere. A means for determining a question of this kind has always existed in the form of Article 31 of the *Règles*, which applies to the subdivision of a composite nominal species the rules laid down in Article 30 for determining the type species of a genus, originally established without a designated or indicated type species. The interpretation of Article 31 has always been a matter of difficulty and it is fortunate, therefore, that this Article was re-written by the Thirteenth International Congress of Zoology at Paris in 1948 (1950, *Bull. zool. Nomencl.* 4 : 73-76) and that the revision so adopted was completed by the Fourteenth International Congress of Zoology at Copenhagen in 1953 (1953, *Copenhagen Decisions zool. Nomencl.* : 72-78). It is in the light of these provisions that the position of the name *Aphis pini* Linnaeus is examined in the present application.

## II. Historical account of the way in which the nominal species " *Aphis pini* " Linnaeus, 1758, has been interpreted

4. The first author to examine the complex of species centred around *Aphis pini* Linnaeus, 1758, was the non-binominal author De Geer (1773, *Mém. Hist. Ins.* 3 (2) (Des Pucerons): 27-39). De Geer recognised and clearly described two species, to which he gave respectively the non-binominal names *Aphis nudi pini* and *Aphis tomentosa pini*. He devoted considerable space to the description of these species and their life histories. In the case of the species which he called *Aphis nudi pini*, he described the male as being apterous. As has been pointed out to me (*in litt.*) by Dr. Ris Lambers, this is an extremely important observation, for it appears that there is only one European species of the genus *Cinara* Curtis which feeds on pine and in which the male is apterous. This is a character of critical importance, for it furnishes an indisputable criterion for identifying the species which De Geer called *Aphis nudi pini* and thus for disentangling the synonymy of this species in the later literature.

5. Goeze in 1778 (*Ent. Beytr. Linn.* **2** : 304-305) placed the name *Aphis nudi pini* De Geer, 1773, as a synonym of *Aphis pini* Linnaeus, 1758, and was thus the first author definitely to select one particular species from among those covered by the Linnean diagnosis to be the species to which the name *Aphis pini* Linnaeus should be applied.

6. Fabricius in 1781 (*Spec. Ins.* **2** : 389) adopted the same line as that of Goeze and in addition gave the binominal name *Aphis pineti* to the species which De Geer had called *Aphis tomentosa pini* in 1773. Fabricius adopted the same treatment for these species in 1794 (*Ent. syst.* **4** : 219) and in 1803 (*Syst. Rhyn.* : 300).

7. Villiers (1789, *Linn. Ent.* **1** : 549), like Fabricius in 1781, realised that a binominal name was needed for the species which De Geer (1773) had called *Aphis tomentosa pini*, and, being presumably unaware of the fact that Fabricius had already given it the name *Aphis pineti*, himself gave it the new name *Aphis tomentosa*.

8. Kaltenbach in 1843 (*Mon. Fam. Pflanzenläuse (Phytophythires)* : 155-160) described a species of *Lachnus* Burmeister which he identified with *Aphis pini* Linnaeus. He also quoted at some length some of the observations made by De Geer in regard to his *Aphis nudi pini*. Kaltenbach incorrectly identified De Geer's species with that which he himself was considering and attributed it to Linnaeus.

9. Walker in 1848 (*Ann. Mag. nat. Hist.* (2) **2** : 102) also described a species to which he applied the name *Aphis pini* Linnaeus. The identity of the species so described by Walker was later examined by Swain (1921). See paragraph 18 below.

10. In 1855 (*Die Pflanzenläuse Aphiden* : 234-236) Koch described a species under the name *Lachnus pini*, which he attributed to Linnaeus and thus considered to be the same species as *Aphis pini* Linnaeus. The species so identified by Koch was later discussed both by Cholodkovsky (1898) and by del Guercio (1909). See paragraphs 14 and 15 below. In addition, Koch described a second species under the name *Lachnus pineti* Fabricius. Koch, however, misidentified the Fabrician species. The species which he so identified with the *pineti* of Fabricius has for the most part been incorrectly treated as having been so named by Koch. It is the species which Mordvilko, 1895 (*Zool. Anz.* **18** : 100) named *Lachnus pineus*.

11. Buckton in 1881 (*Mon. brit. Aphid.* **3** : 50) was the next author to describe a species under the specific name *pini* Linnaeus. The species so identified by Buckton was later discussed by Swain (1921). See paragraph 18 below.

12. Weed in 1890 (*Agric. Sci.* **4** (No. 6) : 157, pl. 2) described the Scotch Pine Plant-Louse under the name *Lachnus pini* (Linnaeus). His action in this matter was later commented upon by Patch (1912). See paragraph 16 below.

13. In 1895 (*Zool. Anz.* **18** : 73-85, 93-104) Mordvilko rejected the name *Aphis pini* Linnaeus and gave a new name, *Lachnus nudus* (: 99) (which however he attributed to De Geer) to the species which De Geer (1773) had called *Aphis nudi pini*. Although De Geer was not a binominal author and had never used the term *nudus* as a specific name, Mordvilko attributed that name to De Geer; Mordvilko himself must however be regarded as the author of this name, which

accordingly takes priority only from 1895. The following are the reasons given by Mordvilko for his rejection of the name *Aphis pini* Linnaeus: "Einige früher beschriebene *Lachnus* Arten konnten in der Tabelle nicht aufgenommen werden. Hauptsächlich weil ihre Beschreibungen nicht ausführlich sind. Diese sind folgende: *L. hyalinus* Koch, *confinis* Koch, *laricis* Koch 26, *cupressi* Buckt., *macrocephalus* Buckt. (ist höchst wahrscheinlich *L. hyalinus* Koch), *pinicola* Buckton 27, *piniphila* Ratz., 28, und *L. pini* nach Linné 29 und Fabricius 30." As the nominal species *Lachnus nudus* Mordvilko was expressly based upon the *Aphis nudi pini* of De Geer, Mordvilko was the first modern author to recognise the species *Aphis pini* Linnaeus, as defined by Goeze and Fabricius. Mordvilko, it may be noted, was aware that the males of his *Lachnus nudus* were apterous. In the same paper Mordvilko treated, as *Lachnus pini* Kaltenbach, the species which in 1843 Kaltenbach had described under that name but which that author had identified with *Aphis pini* Linnaeus (paragraph 8 above).

14. Cholodkovsky in 1898 (*Hor. Soc. ent. ross.* **31**: 7, 32, 40–41) also considered the question of the species identified by Kaltenbach (paragraph 8 above) as *Aphis pini* Linnaeus. The conclusion that he reached was that it was a species very near to *Lachnus taeniatus* Koch, 1857. Cholodkovsky added that the observations by De Geer which Kaltenbach had cited as relating to the species which he was then describing did not in fact relate to that species, but to *Lachnus nudus* De Geer [sic] [recte *Lachnus nudus* Mordvilko]. Commenting on the species which Koch (paragraph 10 above) had called *Lachnus pini* (and which he had identified with *Aphis pini* Linnaeus), Cholodkovsky expressed the opinion that the species in question was the same as that which De Geer had called *Aphis nudi pini*. Cholodkovsky did not make use of the name *Aphis pini* Linnaeus, holding, in regard to it, much the same view as that expressed by Mordvilko (1895) (see paragraph 13 above).

15. The identity of the species which Koch had described under the name *Lachnus pini* (Linnaeus) (i.e. as *Aphis pini* Linnaeus) was further discussed in 1909 (*Redia* **5** (2) 294–296) by del Guercio, who reached the same conclusion as that expressed by Cholodkovsky in 1898 (paragraph 14 above), namely that Koch's species was the *Aphis nudi pini* of De Geer.

16. In 1912 (*Maine agric. exper. Stat. Bull.* **202** : 168–169) Patch described a species, to which she applied the name *Lachnus pini*. She attributed this name to Weed, who (as we have seen in paragraph 12 above) had described the Scotch Pine Plant-Louse under this name, which however he had attributed to Linnaeus. Patch said:—"This species seems to agree with *Lachnus pineti* Koch as discussed and figured by Cholodkovsky (1898) and may prove to be that species."

17. Van den Goot in 1915 (*Beitr. Kenntn. holländisch. Blattläuse* : 405–408) did not mention *Aphis pini* Linnaeus at all. From his remarks on *Lachnus pineti* Koch, it seems likely that he included under that name the species which later Theobald identified as *pini* Linnaeus, except that he described the alate viviparous female as having only one sensorium on the third antennal segment, instead of from seven to nine.

18. Swain in 1921 (*Ent. News.* **32** : 228–229) reviewed both the *Aphis pini* Linnaeus of Walker (1848) (see paragraph 9 above) and the species, also identified with *Aphis pini* Linnaeus, described by Buckton in 1881 (see paragraph 11

above). His conclusion was that both the specimens described by Walker and those described by Buckton were referable to *Lachnus taeneatus* Koch, a species which he regarded as close to *Lachnus nudus* Mordvilko, 1895 (paragraph 13 above).

**19.** In 1923 (*Guide Ins. Connecticut* **4** (Hemipt. Fam. Aphididae) : 261-262) Wilson described the apterous and alate viviparous females of *Lachnus pineus* Mordvilko, 1895, under the name *Dilachnus pini* (Linnaeus). In this he was widely followed by later workers.

**20.** Davidson in 1925 (*List brit. Aphides* : 63), when discussing what he called *Lachniella pini* (L.), added the following note: " *Aphis pini* (L.) of Walker and *L. pini* of Buckton do not appear to be the same species." Swain (1921), it will be recalled (paragraph 18 above), had already expressed the view that Walker and Buckton had misidentified another species (Swain suggested *Lachnus taeniatus* Koch) with *Aphis pini* Linnaeus. From Davidson's remarks it may be concluded that the species with which he was dealing was the same as that which later Theobald (1929) was to identify with *Aphis pini* Linnaeus (paragraph 21 below), although it must be admitted that the fact that Davidson placed this species in the genus *Lachniella* (in which the media of the forewing is only once-branched) suggests otherwise.

**21.** In 1929 (*Plant Lice Gt. Brit.* **3** : 145-147) Theobald treated *Aphis pini* Linnaeus as a member of the genus *Panimerus* Laing, 1926 (*Entomologist* **59** : 322), a name which in a footnote Laing changed to *Neochmosis* (1929, *ibid.* **3** : 129). Of the species with which we are here concerned Theobald listed the following as synonyms: *Aphis nudi pini* De Geer, *Aphis piui* Linnaeus, *Lachnus pini* Kaltenbach, *Lachnus nudus* Mordvilko, together with others. Theobald described his species as having alate males, thus showing conclusively that the species before him was not the *Aphis nudi pini* of De Geer, the males of which are apterous (see paragraph 4 above) and consequently was not *Aphis pini* Linnaeus, as interpreted by Goeze. His description indicates that the species which he had before him was *pineus* Mordvilko. Thus, Theobald was in error not only when he cited *Aphis nudi pini* De Geer and *Lachnus nudus* Mordvilko in the synonymy of his species, but also when he so cited the *Lachnus pini* Linnaeus of Kaltenbach, 1843 (see paragraph 8 above).\* The conclusion reached by Wilson (1923) (paragraph 19 above) and by Theobald (1929) exercised a considerable influence and was followed by a number of subsequent Aphid workers.

**22.** In a paper published in 1930 (*Proc. biol. Soc. Wash.* **43** : 185-188) I expressed the view that *Cinara nudus* (Mordvilko, 1895) was not a synonym of *Aphis pini* Linnaeus, 1758, and that the latter species was the species to which Koch (in 1855) had given the name *Lachnus pineti*.

\* The species which Kaltenbach (1843) erroneously identified with *Aphis pini* Linnaeus (see paragraph 8 of the present paper) cannot bear the name *pini* Kaltenbach, for the *Règles* expressly provide (Article 31) that a specific name based upon a misidentification cannot be accepted as an available name. Even if this were otherwise, the species of Kaltenbach could not bear the name *pini* in the genus *Cinara* Curtis, for in that combination the name would be a junior secondary homonym of *Cinara pini* (Linnaeus). I accordingly hereby give the name *Cinara kaltenbachi* nom. nov. to the species which Kaltenbach misidentified with *Aphis pini* Linnaeus, 1758.

**23.** In 1930 I received two interesting letters from Mordvilko bearing on the present problem. In the first of these letters (which was dated 3rd June 1930), Mordvilko wrote: "At present it is not possible to establish what Linné meant by his *Aphis pini*. There are four to six species of *Lachnus* at least that live on the branches and shoots of *Pinus* in Europe. Under the name of *L. pini*, J. Kaltenbach, 1841-1843, described already a certain *Lachnus* species of the group *pini* (L.) Kalt., to which the following species belonged: *L. pini* K., *L. pineus* Mordv. (= *pineti* Koch nec Fab.), *L. hyperophilus* Koch, etc. *Lachnus nudus* Deg. is certainly quite a peculiar *Lachnus*, to which group *L. nudus* Deg., *L. taeniatus* Koch, *L. pinihabitans* Mordvilko also belong. (See Mordvilko, 1894-1895; *Zool. Anz.*, 1895; N. Cholodkovsky, *Hor. Soc. Ent. Ross.* **31**, 1898.)" In the second of the two letters (letter dated 18th July 1930) Mordvilko wrote: "Today I am sending you two glass tubes with plant lice, *Lachnus nudus* Deg. and *L. pineus* Mordv. (= *pineti* Koch) (? = *L. pini* L.). In my opinion, under the name of *A. pini*, Linné meant one of the species of the group Mordv. *pineus*, *curtiplosus*, *hyperophilus* Koch, *pini* Kalt., because *L. pineus* f.e. is the most common species. If they proved to be one and the same species, this would be called *L. pini* L." From these quotations, we see that, while Mordvilko was still inclined to question whether the *Aphis pini* of Linnaeus could be recognised, he was willing to hazard a guess that this was possible. (I may mention here that in a letter dated 4th August 1948, Dr. Ris Lambers questioned whether Mordvilko was right in thinking that *L. pineus* is the commonest species of the group. Perhaps Mordvilko thought of *L. pineus* as being the most widely spread geographically of the species concerned, as Cholodkovsky (1898) had suggested was the case.) Looking at Mordvilko's conclusion generally, we have to note that, in order to identify *Aphis pini* Linnaeus in the way that he did, he had to put out of his mind the fact that the *Aphis nudi pini* of De Geer has apterous males, while in his *pini*, which is the *pini* of Wilson and Theobald, the males are alate.

**24.** In 1932 (in Sorauer, *Handb. Pflanzen. Krankh.* (ed. 4) **5** : 568) Börner and Schilder placed the *Aphis nudi pini* of De Geer as a synonym of *Cinara pini* (Linnaeus), thus accepting Goeze's interpretation of that species.

**25.** In 1939 (*Arbeit. physiol. angewandt. Ent.* **6** (1) : 76), however, Börner erected a new genus to which he gave the name *Cinaria*, designating, as its type species, *Cinaria kochiana* nom. nov. for *Aphis laricis* Walker, 1848 (*Ann. Mag. nat. Hist.* (2) **2** : 102). It appears that the chief characteristic of this genus is the presence of a well developed mesosternal tubercle. Lambers (1948 : 275), however, has since stated that such a tubercle is present in *Cinara nudus* (Mordvilko), that is, in the true *Aphis pini* of Linnaeus. Lambers has stated also in the same place that in 1939 Börner accepted the opinion of Theobald and others who described the aphid known as *Lachnus pineus* Mordvilko under the specific name *pini* Linnaeus.

**26.** Oestlund in 1942 (*Syst. Aphid.* : 24) accepted the species *Lachnus pineti* Koch, as interpreted by Van den Goot (1915) (see paragraph 17 above) as being the same species as *Aphis pini* Linnaeus, 1758. However, he described the male of this species as being alate, and it is evident, therefore, that he did not have before him the true *Aphis pini* of Linnaeus, as interpreted by Goeze (see paragraph 5 above).

**27.** The problem with which we are concerned was posed as follows very

clearly by Lambers in 1948 (*Trans. R. ent. Soc. Lond.* **99** : 274-275) : "The description of *pini* by Linné is such that it may apply to at least five species living on *Pinus silvestris*. Therefore, the name is available for any of these species. It has alternately been used for two species, one also known as *pineti* Koch or *pinea* Mordvilko, the other as *nuda* De Geer or *nuda* Mordvilko. It is clear that De Geer believed that his *Aphis nudi pini* was *pini* L. Therefore Goeze and Gmelin were in all respects correct in placing *Aphis nudi pini*, an invalid name, as a synonym of *pini* L. As De Geer describes his species so clearly that a misunderstanding has never occurred as to what he meant, we have one very clear and distinct conception of *Aphis pini* L., which has the advantage of being the oldest interpretation."

### III. Conclusions and Recommendations

**28.** Having now examined the principal occasions on which the specific name *pini* Linnaeus, 1758, as published in the combination *Aphis pini*, has been used, we may summarise our principal conclusions as follows: (1) The nominal species *Aphis pini* Linnaeus, 1758, may or may not have been a composite species but in any case its description is so scanty that it cannot be interpreted with certainty until some later author, acting under Article 31 of the *Règles*, definitely links the specific name *pini* Linnaeus to a clearly recognisable species which conforms with the description given by Linnaeus. De Geer (1773) clearly distinguished two species belonging to the *pini*-complex and it might easily be claimed that of these he definitely identified with *Aphis pini* Linnaeus the one to which he applied the non-binominal name *Aphis nudi pini*. Even if the view is taken that De Geer's action was not sufficiently precise to bring it within the scope of Article 31, there can be no question but that five years later Goeze (1778) definitely identified *Aphis nudi pini* De Geer as the species described by Linnaeus as *Aphis pini*. It can certainly be concluded therefore that, under Article 31, the above is the manner in which the nominal species *Aphis pini* Linnaeus is to be interpreted. (2) It cannot be said that over the period as a whole there has been any consistently general use of the specific name *pini* Linnaeus. In the XVIIIth Century, it may be said that *Aphis pini* Linnaeus was consistently interpreted in the correct manner; in the XIXth Century the name *pini* Linnaeus was interpreted in a variety of inconsistent, and, in almost every case, incorrect ways, and in the last decade of the century a fresh impetus was given to the tendency to use this name in an incorrect manner through the influence exerted by Mordvilko (1895), the first modern author to recognise the species described by De Geer as *Aphis nudi pini* (= *Aphis pini* Linnaeus, 1758), who unfortunately abandoned the use of the specific name *pini* Linnaeus, giving to that species the specific name *nudus*: the XXth Century also has witnessed considerable divergence of practice; Mordvilko's influence persisted for a considerable time until it was replaced by that of Wilson (1923) and Theobald (1929), who restored the specific name *pini* Linnaeus but unfortunately associated that name not with *Aphis nudi pini* but with the species to which Mordvilko had given the name *pineus*. In the most recent period, however, there has been a move to restore the specific name *pini* Linnaeus to its correct usage. This course was followed by Börner and Schilder (1932), by Oestlund (1942) (so

far as the bibliographical references, but not the description, are concerned) and by Lambers in 1948.

**29.** If it had been found that there had been a preponderating use of the specific name *pini* Linnaeus for some species, other than that to which, in consequence of the action of Goeze (1778) it applies under the *Règles*, there might well have been a case for asking the International Commission on Zoological Nomenclature to use its Plenary Powers to set aside the selection made, under Article 31, by Goeze in 1778, and to select in its place whatever other species had commonly been accepted as being the species represented by the nominal species *Aphis pini* Linnaeus. I have carefully considered whether such a course is called for in the present case, but, in view of the history of this name, as summarised in the preceding paragraph, and having regard also to the fact that the most recent authors who have treated of these species have applied the name *pini* Linnaeus in the manner required by the selection made by Goeze in 1778, I have reached the conclusion that the use of the Plenary Powers for the purpose of setting Goeze's (1778) selection on one side would not be justified and that the course which would lead to the least confusion and inconvenience—for some is probably unavoidable—would be for the International Commission to register a definitive acceptance of Goeze's interpretation of the nominal species *Aphis pini* Linnaeus.

**30.** I accordingly now ask the International Commission on Zoological Nomenclature :—

- (1) to place on the *Official List of Specific Names in Zoology* the specific name *pini* Linnaeus, 1758, as published in the binominal combination *Aphis pini*, the species so named to be interpreted by reference to the description given by De Geer (1773) for *Aphis nudi pini*, as so selected by Goeze (1778);
- (2) to place on the *Official Index of Rejected and Invalid Specific Names in Zoology* the specific name *nudus* Mordvilko, 1895, as published in the binominal combination *Lachnus nudus* (the specific name of a nominal species which, being based on *Aphis nudi pini* De Geer, 1773, is objectively identical with *Aphis pini* Linnaeus, 1758, under the selection made by Goeze (1778) under Article 31).

**PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE, AS THE TYPE SPECIES OF "LACHNUS" BURMEISTER, 1835, AND "CINARA" CURTIS, 1835 (CLASS INSECTA, ORDER HEMIPTERA) A SPECIES IN HARMONY WITH ACCEPTED NOMENCLATORIAL PRACTICE**

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**(Commission's reference Z.N.(S.)174)**

Much confusion has arisen among Aphid taxonomists in connection with the generic names *Lachnus* Burmeister, 1835, and *Cinara* Curtis, 1835. Both these names were first published in the same year and it has not been found possible to establish with certainty the relative priority to be assigned to them. These two nominal genera have been treated as representing the same taxonomic genus, and *Cinara* has been treated as a junior synonym of *Lachnus*, notwithstanding the fact that the priority of these names in relation to one another was not definitely established. Both genera have been treated as having the same species as their respective type species, though incorrectly so. Moreover, the name *Lachnus* has until recently been associated with a group of aphids generically different from that to which is referable the species which under the Rules is the valid type species of that genus. Furthermore, the species which was designated as the type species of *Cinara* was distinguished by the addition of a question mark inserted after the author's name, a procedure on the part of Curtis which naturally casts a cloud on the identity of the species so designated.

**2.** In the belief that this state of confusion should be brought to an end with as little further delay as possible, the present application has been prepared for the purpose of presenting the available facts to the International Commission on Zoological Nomenclature and thereby of securing an authoritative ruling for the guidance of present and future taxonomists.

**(a) The generic name "Lachnus" Burmeister, 1835**

**3.** In 1835 (on a date which is not precisely known) Burmeister published his generic name *Lachnus* (*Handbuch der Entomologie* 2 : 91), which he attributed to Illiger. In this connection it is interesting to note the following statement entered in long hand at the bottom of page 91 in a copy of the second volume of Burmeister's *Handbuch* which I have examined: "Illiger never described the genus *Lachnus*, which he had put in manuscript. Burmeister adopted the name, credited it to Illiger, and described the genus." (Theo. Pergande.) This statement is similar to one sent to me in 1930 by the late Dr. Walther Horn. Both authorities agree with the generally held opinion that Illiger did not describe the genus, so that the name *Lachnus* should be credited to Burmeister. (It should be recalled at this point that in 1948 the International Congress of Zoology decided to insert in the Code a provision that, where a name has gained an irregular currency through having been in use in manuscript, that name is to be attributed to the first author by whom it is validly published with an indication and it is to rank for the purposes of priority from the date on which it is first so published—see 1950, *Bull. zool. Nomencl.* 4 : 259.)

**4.** Westwood in 1840 (**2** : 118) selected *Aphis roboris* Linnaeus, 1758 (*Syst. Nat.* (ed. 10) **1** : 452) as the type species of *Lachnus* Burmeister, no species having been so designated or indicated at the time of the original publication of this generic name. This selection was, however, invalid, because *Aphis roboris* Linnaeus was not one of the nominal species included in the genus *Lachnus* by Burmeister when he first published the name *Lachnus*.

**5.** Schumacher in 1921 (*Zool. Anz.* **53** : 185-186) attempted to establish the proposition that *Aphis roboris* Linnaeus was the type species of *Lachnus* Burmeister, by citing from the second edition of Burmeister's *Handbuch der Entomologie* (**2** : 1006), where Burmeister stated that his *Lachnus fasciatus* of 1835 (*Handb. Ent.* **2** (1) : 93) was a synonym of *Cinara roboris* (Linnaeus) and therefore became a synonym of *Aphis roboris* Linnaeus, as identified by Fabricius. It is significant that Burmeister here made use of the generic name *Cinara* and it should be noted also that he did not treat it as a synonym of *Lachnus*. This was in the year before that in which Westwood selected *Aphis roboris* Linnaeus as the type species of *Lachnus* Burmeister. However, *Aphis roboris* Linnaeus was not eligible for selection as the type species of *Lachnus* Burmeister, since it is not one of the nominal species cited by Burmeister when he first published that generic name. The fact that at a later date Burmeister treated the name *Lachnus fasciatus* Burmeister as a junior synonym of *Aphis roboris* Linnaeus is totally irrelevant for the purposes of Article 30. It does not alter in any way the fact that (as explained in paragraph 4 above) Westwood's action in 1840 in selecting *Aphis roboris* Linnaeus as the type species of *Lachnus* Burmeister was invalid.

**6.** In 1860 Passerini (*Gli Afidi con un Prospetti dei Generi ed alcune Specie nuova italiana* : 29) indicated that he considered that *Lachnus pinicola* Kaltenbach, 1843 (*Mon. Fam. Pflanzenläuse* : 154, 155) was typical of *Lachnus* Burmeister. It might be argued that his action on this occasion constituted a clear selection of that species as the type species (under Rule (g) in Article 30), but it is not necessary to consider this question in detail, for in 1863 Passerini (*Arch. Zool. Anat. Fisiol.* **2** (2) : 185) unequivocally selected the above species as the type species of *Lachnus* Burmeister. Passerini's action was however invalid, for the species (*Lachnus pinicola* Kaltenbach) was not one of the nominal species included by Burmeister in the genus *Lachnus* at the time when he first published that generic name. Kaltenbach's *pinicola* had, indeed, not even been described at that time.

**7.** In 1909 Mordvilko (*Annu. Mus. zool. Acad. Sci. St. Petersb.* **13** : 374) selected *Lachnus nudus* De Geer as the type species of *Lachnus* Burmeister. This selection, like those discussed above, was invalid, since the species selected was not one of those included by Burmeister at the time when he first published the generic name *Lachnus*.

**8.** In 1910 Wilson (*Ent. News* **21** : 151) selected *Lachnus punctatus* Burmeister, 1835, as the type species of the genus *Lachnus* Burmeister. This is one of the nominal species originally included in the genus *Lachnus* at the time when that generic name was first published and it is the first such species to have been selected as the type species of this genus. Wilson's action was therefore perfectly valid (under Rule (g) in Article 30) and the nominal species *Lachnus punctatus* Burmeister is therefore, under the *Règles*, the type species of

the genus *Lachnus* Burmeister, 1835. It must be noted however that, at the time when Wilson made the foregoing type selection, the identity of the taxonomic species represented by the nominal species *Lachnus punctatus* Burmeister was unknown.

9. Wilson reverted to this subject in 1911 (*Ann. ent. Soc. Amer.* **4** : 51-54) in a paper in which he pointed out that there was a possibility that the species represented by the nominal species *Lachnus punctatus* Burmeister might be the same as that represented by the nominal species *Aphis viminalis* Boyer de Fanscolombe, 1841 (*Ann. Soc. ent. France* **10** (3) : 184), which Mordvilko had designated as the type species of the genus *Tuberolachnus* Mordvilko, [1909] (*Annu. Mus. zool. Acad. St. Petersb.* **13** : 374). In the light of these considerations, Wilson sought to select *Lachnus fasciatus* Burmeister, 1835 (*Handb. Ent.* **2** (1) : 93) as the type species of *Lachnus* Burmeister. Wilson's action in this matter was naturally invalid, since he himself had in 1910 validly selected *Lachnus punctatus* Burmeister as the type species of this genus. At the time when he attempted to change the type species of *Lachnus* in this way Wilson was unaware that the true identity of the species represented by the nominal species *Lachnus fasciatus* Burmeister was still unknown and he could not guess that that species would turn out to be *Aphis roboris* Linnaeus. There is little doubt that at that time Wilson interpreted the nominal species *Lachnus fasciatus* Burmeister in the same manner as del Guercio who in 1909 (*Redia* **5** (2) : 294-296) had described in considerable detail a species which he had identified with Burmeister's nominal species *Lachnus fasciatus*. Subsequent events have shown, however, that the species so identified by del Guercio with Burmeister's *fasciatus* was an entirely different species. There is therefore no doubt that, when citing the name *Lachnus fasciatus* Burmeister, as the name of the type species of the genus *Lachnus*, Wilson had in mind not the true *fasciatus* of Burmeister but a different species misidentified by him therewith. Nevertheless, under the *Règles* as clarified by the Paris Congress (see 1950, *Bull. zool. Nomencl.* **4** : 158), his action would have constituted a valid selection of the true *Lachnus fasciatus* of Burmeister, if a valid type selection had not already been made for the genus *Lachnus*, for under the decision noted above an author is to be assumed, for the purposes of Article 30, to have correctly identified a species selected by him to be the type species of a previously established genus. This question does not however arise in the present case, since (as shown in paragraph 8 above) a different nominal species, *Lachnus punctatus* Burmeister, had already been validly selected to be the type species of the genus *Lachnus*. Most Aphid workers today identify the nominal species *Lachnus viminalis* Boyer with *Lachnus punctatus* Burmeister and accordingly treat the trivial name *viminalis* Boyer as a junior synonym of the name *punctatus* Burmeister. Further, it is now generally considered that the species represented by the nominal species *Lachnus punctatus* Burmeister is the same as that represented by the nominal species *Aphis saligna* Gmelin, 1790 (*in* Linnaeus, *Syst. Nat.* (ed. 13) **1** (4) : 2209), the specific name *punctatus* Burmeister being sunk therefore as a junior synonym of the name *saligna* Gmelin. It should be noted also that some Aphid workers consider the genus *Tuberolachnus* Mordvilko, [1909], as identical with the genus *Pterocchorus* (emend. of *Pteroclorus*) Rondani, 1848 (*N. Ann. Sci. nat. Bologna* [2] **9** : 35), the type species of which is *Aphis roboris* Linnaeus (the first species

to have been selected, though invalidly, as the type species of *Lachnus* Burmeister).

10. In 1913 (*Tidschr. Ent.* **56** : 153) Van der Goot selected *Aphis juniperi* De Geer, 1773 (*Mém. Hist. Ins.* **3** : 2, 156) as the type species of *Lachnus* Burmeister, but that selection was of course invalid for, quite apart from the fact that a valid type-selection (of *Lachnus punctatus* Burmeister) had already been made by Wilson in 1910, De Geer's nominal species *juniperi* was not one of Burmeister's original species. Very inconsistently, Van der Goot in the same paper (*loc. cit.* **56** : 74) cited also *Aphis nudus* De Geer, 1773, as the type species of this genus. This selection also is invalid, and for the same reasons. (It may be noted incidentally that De Geer never described a species under the above name, the name which he used being *Aphis nudi pini*.)

11. Baker in 1920 (*U.S. Dep. Agric. Bull.* **826** : 15-16), after reviewing the various type selections for the genus *Lachnus* Burmeister that had been made up to that time, came to the conclusion that the generic name *Lachnus* would be lost to Aphid workers, unless the identity of the nominal species *Lachnus punctatus* Burmeister could be established or the Rules were suspended in this case. In order to save the name *Lachnus*, Baker thereupon, in deliberate disregard of the Rules, adopted *Lachnus fasciatus* Burmeister as the type species of the genus *Lachnus*. At the same time he stated that an application would be submitted to the International Commission asking it to use its Plenary Powers to preserve the long-established use of the generic name *Lachnus*. I am informed, however, by the Secretary to the Commission that there is no trace in the archives of the Commission of any such application having been submitted. It is clear from Baker's paper that he followed del Guercio in his interpretation of the nominal species *Lachnus fasciatus* Burmeister (see paragraph 9 above) and therefore did not have in mind the true *Lachnus fasciatus* Burmeister, which (as already explained) is identical with *Aphis roboris* Linnaeus; for he spoke of the media of the fore-wings of this species as being once-branched, whereas all known species of *Lachnus*, as universally understood, have the media of the fore-wings twice-branched. It is clear, therefore, that Baker's concept of the genus *Lachnus* Burmeister was not that of Burmeister himself or that of subsequent workers. Having accepted *Lachnus fasciatus* Burmeister, as interpreted by del Guercio, as the type species of the genus *Lachnus* Burmeister, Baker sank the generic name *Lachniella* del Guercio, [1909] (*Redia* **5** : 286) as a junior synonym of *Lachnus* Burmeister.

12. In 1931 in a paper entitled "El genotypo de *Lachnus* Burm. (Hemip. Aphid.)" Orfila (R.N.) selected *Lachnus lapidarius* (Fabricius) (= *Chermes lapidarius* Fabricius, 1803, *Syst. Rhyng.* : 306) as the type species of *Lachnus* (Orfila, 1931, *Rev. Soc. ent. argent.*, B. Aires **3** : 249-250). This is one of the species originally included in *Lachnus* by Burmeister. Schumacher in 1921 (*Zool. Anz.* **53** : 182-183) gave a synonymy for *Lachnus lapidarius* (Fabricius), and came to the conclusion that the species so named was the same as *Prociphilus xylostei* De Geer, 1773. If Orfila's selection of *Chermes lapidarius* Fabricius, as identified by Schumacher with *Aphis xylostei* De Geer, as the type species of *Lachnus* were to be accepted, a new concept would be created for the nominal genus *Lachnus* Burmeister, and the name *Lachnus* would replace the name *Prociphilus* Koch, 1857 (*Die Pflanzenläuse Aphiden* **9** : 279). The objections to such a solution are obvious.

**13.** Börner & Schilder in 1932 (*in* Sorauer's *Handbuch der Pflanzenkrankheiten* (ed. 4) **5** : 568) considered that the species which del Guercio had identified with *Lachnus fasciatus* Burmeister was the same as *Cinara costata* (Zetterstedt).

**14.** It should be noted that Kaltenbach in 1843 (*Mon. Fam. Pflanzenläuse* : 148) listed both *Lachnus fasciatus* Burmeister and *Cinara roboris* (Curtis) as synonyms of *Aphis roboris* Linnaeus, 1758, which he assigned to the genus *Lachnus* Burmeister. Kaltenbach seems to have been the first author to have identified the nominal species *Lachnus fasciatus* Burmeister, 1835, with *Aphis roboris* Linnaeus, 1758, apart from Burmeister himself who in 1839 (*Handb. Ent.* **2** (2) (2) : 1006) had sunk his own specific name *fasciatus* as a synonym of *roboris* Linnaeus. For some reason which it is impossible to explain, Kaltenbach went on to describe a different species under the name *Lachnus fasciatus* and credited that name, as used in this way, to Burmeister. Kaltenbach suggested that the species which he named in this way might turn out to be the same as *Aphis costata* Zetterstedt, 1828 (*Fauna Ins. lapp.* (1) : 559).

**15.** In Heft 7 of his *Die Pflanzenläuse Aphiden*, published in 1855, Koch, on page 226, treated both *Lachnus fasciatus* Burmeister and the *Cinara roboris* of Curtis as synonyms of *Dryobius roboris* (Linnaeus). Having done this, he then in Heft 8, published in 1857, proceeded, on page 237, to describe a species to which he applied the name *Lachnus fasciatus* Burmeister. Under this name he gave references both to the *Handbuch* of Burmeister and to Kaltenbach, and, like Kaltenbach, he suggested that this species might be identical with *Aphis costata* Zetterstedt, 1828. Koch illustrated this species by figures of alate and apterous viviparous females. The figure of the alate female shows the media of the forewings twice-branched; moreover, the pigmented areas characteristic of *costata* Zetterstedt are lacking. However, in his description of the alate viviparous female Koch stated that the media were only once-branched; he referred also to the presence of pigmented areas. We may, therefore, conclude that the species which he had before him was the *costata* of Zetterstedt and not the species to which Burmeister had given the name *fasciatus*.

**16.** Mordvilko (1895, *Zool. Anz.* **18** : 80–102) and Cholodkovsky (1898, *Hor. Soc. ent. ross.* **31** : 48–52) took different views as to the species identified by Kaltenbach and Koch with the nominal species *Lachnus fasciatus* Burmeister. Mordvilko held that Kaltenbach's species was the same as that to which Cholodkovsky had given the name *Lachnus farinosus* (1891, *Rev. Sci. nat.* **1891** (No. 8) : 294–306) and spoke of that species as *Lachnus fasciatus* Kalt. He identified in the same way the species which Koch had identified as *Lachnus fasciatus* Burmeister. Cholodkovsky, on the other hand, held that the species which he had named *Lachnus farinosus* was not the same species as that which Kaltenbach had identified with *Lachnus fasciatus* Burmeister. Cholodkovsky then proceeded as follows:—"Wenn also alle auf Nadelhölzern lebenden und mit dunkel gezeichneten Vorderflügeln versehenen *Lachnus*-Arten identisch sein sollen, so müssen sie alle *Lachnus costatus* Zett. heißen."

**17.** Börner (1930, *Arch. klassif. phylogenet. Ent.* **1** (2) : 125) did not select a type species for the genus *Lachnus*; he identified *Lachnus fasciatus* Burmeister with *Aphis roboris* Linnaeus and recognised that species as the type species of the genus.

**18.** In my paper on this subject published in 1930 (*Proc. biol. Soc. Wash.* 43 : 185-188) I followed the same course, identifying *Lachnus fasciatus* Burmeister with *Aphis roboris* Linnaeus and accepting that species as the type species of the genus *Lachnus* Burmeister.

**19.** Oestlund (1942, *Syst. Aphididae* (1) : 15-16) has also discussed this question. He followed Westwood in treating the generic name *Cinara* Curtis as a synonym of *Lachnus* Burmeister. His views on the type species of *Lachnus* are given in the following passage : "The genus *Cinara*, published during the last month of the same year as *Lachnus*, has been shown to be a synonym of *Lachnus*, but this does not invalidate Curtis setting *Aphis pini* as type and the setting of the type to *Cinara* does not invalidate its application to *Lachnus* as having priority." The "*Aphis pini*" which Oestlund had in mind is the species *Aphis pini* of Linnaeus, as interpreted by Goeze (1778), as is clearly indicated on the previous page of his paper.

**20.** We have now completed our review of the literature relating to the type species of the genus *Lachnus* Burmeister. Before discussing the action which it is desirable that the International Commission on Zoological Nomenclature should take in this matter, it will be convenient to consider the associated problem relating to the generic name *Cinara* Curtis, 1835.

#### (b) The generic name "Cinara" Curtis, 1835

**21.** Curtis published his description of the genus *Cinara* in Section 576 of Volume 12 of his *British Entomology*. The pages in this Section are not numbered. The date of publication of this Section was December 1835 and the plate accompanying it is dated 1st December. Curtis described and figured *Aphis roboris* Linnaeus as belonging to his genus *Cinara*. In addition, he designated a type species for this genus. Unfortunately, however, in making this designation, Curtis cited his type species as follows : "*Aphis pini* Linn. ??"

**22.** The fact that Curtis figured and described *Aphis roboris* Linnaeus as belonging to the genus *Cinara* has led some specialists to consider that species to be the actual type species of *Cinara*. Theobald (1929, *Plant Lice Gt. Brit.* 3 : 352), for example, expressed the following view, quoting from Laing : "The point is simply this, Curtis defines the genus *Cinara* and describes and figures *roboris*. Unfortunately, he says : 'Typical species : *Aphis pini* ? Linnaeus'. It was obvious, therefore, he knew nothing about *pini* and that he had in mind for his genotype what he was figuring and describing, namely *roboris*. It is my contention that you cannot base genera on species you do not know and that in nomenclature you must interpret what a man obviously meant." It is not possible, however, to sustain the argument that Curtis did not have a clear idea of what *Aphis pini* Linnaeus was, for on the page following that on which the generic name *Cinara* first appeared he wrote : "Nos. 20 to 30 enumerated in the Guide with the exception of No. 29 belong to this genus." Reference to the Guide shows that *Aphis pini* Linnaeus was No. 22. It is perfectly clear, therefore, that Curtis considered the species *Aphis pini* Linnaeus (whatever he may have thought that species to be), belonged to his new genus *Cinara*. Thus, the nominal species *Aphis pini* Linnaeus is unquestionably the type species by original designation, if a satisfactory explanation can be found for the use by Curtis of a question mark, when he designated that species as the type species. Oestlund in 1942 (: 15-16) offered the following explana-

tion of Curtis' action : "The mark is not an expression of doubt that *Aphis pini* is the type, but refers to the fact that *Aphis pini* is a composite that includes the two species found in Sweden that were named *Aphis nudi pini* and *tomentosa pini* by De Geer, 1773. Curtis questions which of these two should be the type according to the binomial method, recognising that De Geer persisted in following the vernacular method of naming species." One has to admit however that in a matter of this kind one guess is almost as good as another as to what Curtis meant by the question mark which he placed after the name of Linnaeus. In any case, Curtis' action in this matter must be considered as a flaw in his designation of *Aphis pini* Linnaeus to be the type species of *Cinara* Curtis, and action is needed to remove this defect.

**23.** In 1840 (*Introd. Class. Ins.* **2** (Syn.) : 118) Westwood, who may be expected to have been familiar with the respective dates of publication of the works in which Burmeister and Curtis published the generic names discussed above, placed the name *Cinara* Curtis as a synonym of the name *Lachnus* Burmeister. In doing so, he probably acted on the basis of his knowledge of the priority of the name *Lachnus*. This action by Westwood has also contributed to the confusion which has occurred in regard to these two generic names. I can find no exact date for the appearance of Volume 2 of Burmeister's *Handbuch der Entomologis*, other than given on the title page, where the date is given as 1835, and a reference in the *Annales de la Societe entomologique de France* (**4** : cxiv), published in 1835, where it appears that the foregoing volume of Burmeister's *Handbuch* was published on some date between October 1st and December 31st, 1835. Burmeister himself (1836, *Archiv. für Naturgeschichte* **2** : 325) cited his *Handbuch* as having appeared in 1835.

**24.** Thus, on the meagre data available, it is possible that the name *Lachnus* Burmeister was published a few weeks before the name *Cinara* Curtis, for the Part containing the name *Cinara* is dated 1st December 1835, whereas, although it is possible that the name *Lachnus* was not published until the end of December 1835 (i.e. some four weeks after the publication of the name *Cinara*), it is possible also that it may have been published in 1835 as early as the beginning of October, i.e. two months before the publication of the name *Cinara*. As already observed (paragraph 22) it would be reasonable to expect that such an authority as Westwood, writing (in 1840) only five years after the publication of these names, would know which of the two names was the first to have been published, and the fact that he sank the name *Cinara* Curtis as a synonym of the name *Lachnus* Burmeister lends color to the view that the name *Lachnus* was published before the name *Cinara*. Up to 1948 the International Rules contained no provisions for determining the relative dates to be assigned, for the purposes of the Law of Priority, to names in cases where there was no definite evidence to show which of any given pair was the first to be published. In 1948 this defect in the Rules was remedied by the Thirteenth International Congress of Zoology when it was decided to incorporate in the *Règles* a series of provisions dealing with this subject, the general principle adopted being that in such a case each of the names concerned is to rank for the purposes of priority as from the earliest date as from which it is known with certainty to have been published, i.e. where a name is known to have been published between say 1st January

and 15th February of a given year, it is to rank for the purposes of priority as from 15th February of the year in question, that being the earliest date as from which it is definitely known to have been published (see 1950, *Bull. zool. Nomencl.* **4** : 223-225). Applying these rules to the case here under consideration, we find (1) that 31st December 1835 is the earliest date by which it is known with certainty that the name *Lachnus* Burmeister was published and (2) that the name *Cinara* Curtis is to be treated as having been published on 1st December 1835, that date having been affixed to the portion of Curtis' book in which this name first appeared. We see therefore that under the *Règles* the name *Cinara* Curtis has several weeks priority over the name *Lachnus* Burmeister.

**25.** In 1910 (*Ent. News* **21** : 149) Wilson selected what he called "*pini* Curtis" to be the type species of *Cinara* Curtis. This action was invalid, for, quite apart from the fact that Curtis had (though defectively) designated *Aphis pini* Linnaeus as the type species of this genus, Curtis never described a species under the specific name *pini* and there is therefore no such specific name as *pini* Curtis.

**26.** In 1911 (*Ann. ent. Soc. Amer.* **4** : 52-53) Wilson again discussed this subject, though without making any reference to his action in the previous year in selecting "*pini* Curtis" as the type species of this genus. He now rejected Curtis' selection of *Aphis pini* Linnaeus on account of the use by Curtis of a question mark, when so doing. Wilson thereupon suggested that *Aphis roboris* Linnaeus might be the species which should be regarded as being the type species, since this was the one species which Curtis described in full. In a footnote Wilson went on to make the following observation: "The question of the validity of this genus rests upon the fact that Curtis did not give *roboris* as the type and the other species is questioned. The author then concludes that the genus is in question and cannot be placed as a valid genus."

**27.** Baker, in 1920 (*U.S. Dept. Agric. Bull.* **826** : 15-18), without giving any discussion, gave the generic name *Cinara* Curtis (which he misspelt *Cinaria* and to which he attributed the erroneous date "1853") as a questionable synonym of *Eulachnus* del Guercio, 1911. In the same paper, when discussing the genus *Pterochlorus* Rondani, Baker rejected *Aphis roboris* Linnaeus as the type species of *Cinara* Curtis, following Wilson (1911) in believing that Curtis placed only two species in that genus when he first published its name, overlooking the reference by Curtis to the species enumerated in the "Guide." In this paper Baker recognised his nominal genus *Dilachnus* Baker, 1919 (*Canad. Ent.* **51** : 253) as a good genus and characterised it as having the media of the forewings twice-branched. Thus, he took care of the two species which he had excluded from the genus *Lachnus* when he selected as the type species of that genus a species in which the media were only once-branched.

**28.** Börner in 1930 (*Arch. Klassif. phylogenet. Ent.* **1** (2) : 125) recognised *Aphis pini* Linnaeus as the type species of *Cinara* Curtis. I adopted the same course in my paper published in the same year (Hottes, 1930, *Proc. biol. Soc. Wash.* **43** : 185-186). While a student of Oestlund's, I was assigned by him the task of studying the synonymy of the generic names *Lachnus* and *Cinara* and the question of the type species of those genera. Oestlund

could never bring himself to recognise the generic name *Cinara*, because he wished to retain the name *Lachnus* for species congeneric with *Aphis pini* Linnaeus, as witnessed by his last contribution, published in 1942 (: 15-16), in which he treated the name *Cinara* as a synonym of *Lachnus*.

### (c) Conclusions

**29.** Having now brought to a close the story of the generic names *Lachnus* and *Cinara*, I turn to the question of the action which it is desired that the International Commission on Zoological Nomenclature should take in the present case. As the application now submitted will have shown, the generic names *Lachnus* Burmeister 1835, and *Cinara* Curtis, 1835, are both very well-known names, but unfortunately the current use of the first of these names is entirely at variance with the provisions of the *Règles*, while, without a ruling from the International Commission, it is impossible to determine with certainty what species should, under the *Règles*, be regarded as the type species of the second of the nominal genera in question.

**30.** In the case of *Lachnus* Burmeister, the type species, under the *Règles*, is undoubtedly *Lachnus punctatus* Burmeister, 1835, that having been the first of the nominal species cited under the generic name *Lachnus* on the occasion when that name was first published to have been selected (by Wilson, 1910) as the type species of this genus. The nominal species *Lachnus punctatus* Burmeister, 1835, is now subjectively identified with *Aphis seligna* Gmelin, 1789. On the other hand, the universally accepted type species for this genus is *Aphis roboris* Linnaeus, 1758, a nominal species not placed by Burmeister in the genus *Lachnus*, in which however he did include the nominal species *Lachnus fasciatus* Burmeister, 1835, which is now generally regarded as being subjectively identical with *Aphis roboris* Linnaeus. The substitution of *Lachnus punctatus* Burmeister for *Aphis roboris* Linnaeus as the type species of this genus would lead to great confusion, and is a change which it is essential should be prevented from occurring.

**31.** The generic name *Cinara* Curtis, 1835, has been widely used for the species identified as *Aphis pini* Linnaeus, 1758, and its allies, but, as already explained, the use by Curtis of a question mark, when designating that species as the type species of this genus has led some workers to reject that type designation. Workers who have taken this view have regarded *Aphis roboris* Linnaeus, 1758, as the type species of *Cinara*, and, as those workers have also regarded that species as the type species *Lachnus* Burmeister, 1835, their action has had the effect of rendering (in their view) the nominal genera *Lachnus* and *Cinara* as objectively identical with one another and thus of making the names *Lachnus* Burmeister, 1835, and *Cinara* Curtis, 1835, objective synonyms of one another. Owing to the fact that these names were published at very nearly the same time, different views have been taken by workers as to which of these names should be treated as having priority over the other, there being until 1948 no provisions in the International Rules for determining the relative priority to be assigned in such circumstances to the names comprised in any given pair of names. Under the provisions inserted in the *Règles* by the Thirteenth International Congress of Zoology in 1948 it is now seen (paragraph 24 above) that the name *Cinara* Curtis possesses priority over the name *Lachnus* Burmeister.

**32.** The greatest confusion would ensue if the names *Cinara* Curtis and *Lachnus* Burmeister were to become synonyms of one another and it is one of the principal purposes of the present application to secure a settlement which will eliminate this risk. The basis of the settlement now asked for is the acceptance, under the Plenary Powers, (1) of *Aphis roboris* Linnaeus, 1758, as the type species of *Lachnus* Burmeister, 1835, and (2) of *Aphis pini* Linnaeus, 1758, as the type species of *Cinara* Curtis, 1835, for it is believed that it is only by this action that the long-standing discussion of this subject can be brought to a satisfactory close. It is certain that, if no action were to be taken under the Plenary Powers and the *Règles* were to be strictly applied, the most serious confusion would be inevitable. In connection with the foregoing proposal, there is, it must be noted, a technical defect in the trivial name *pini* Linnaeus, 1758 (as published in the binominal combination *Aphis pini*) which will need to be remedied before the foregoing request can be granted. A recommendation on this subject is submitted to the International Commission in the immediately preceding application (Z.N.(S.)547).

**33.** The specific proposals which are submitted to the International Commission on Zoological Nomenclature are that the Commission should :—

(1) use its Plenary Powers :

- (a) to set aside all designations or selections of type species for the genera *Lachnus* Burmeister, 1835, and *Cinara* Curtis, 1835, made prior to the decision now proposed to be taken ;
- (b) to designate the under-mentioned species to be the type species of the genera referred to in (a) above :—

<i>Name of genus</i>	<i>Species recommended to be designated as the type species of the genera specified in Col. (1)</i>
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(1)	(2)
(i) <i>Lachnus</i> Burmeister, 1835	<i>Aphis roboris</i> Linnaeus, 1758
(ii) <i>Cinara</i> Curtis, 1835	<i>Aphis pini</i> Linnaeus, 1758 (defined, as recommended in application Z.N.(S.)547)

(2) place the generic names *Lachnus* Burmeister, 1835, and *Cinara* Curtis, 1835, with the type species severally specified in (1) (b) above, on the *Official List of Generic Names in Zoology* :

(3) place the specific name *roboris* Linnaeus, 1758 (as published in the binominal combination *Aphis roboris*) on the *Official List of Specific Trivial Names in Zoology* :

(4) place the name *Cinaria* Baker, 1920 (an Invalid Subsequent Spelling of *Cinara* Curtis, 1835), on the *Official Index of Rejected and Invalid Generic Names in Zoology*.

REPORT ON THE APPLICATION SUBMITTED TO THE  
INTERNATIONAL COMMISSION ON ZOOLOGICAL  
NOMENCLATURE IN RELATION TO THE GENERIC NAMES  
"LACHNU斯" BURMEISTER, 1835, AND "CINARA"  
CURTIS, 1835 (CLASS INSECTA, ORDER HEMIPTERA)

By FRANCIS HEMMING, C.M.G., C.B.E.  
(Secretary to the International Commission on Zoological Nomenclature)

(Commission's reference Z.N.(S.)174)

The purpose of the present Report is to lay before the International Commission on Zoological Nomenclature particulars of the comments so far received in regard to the application now before it in regard to the generic names *Lachnus* Burmeister, 1835, and *Cinara* Curtis, 1835 (Class Insecta, Order Hemiptera).

2. This question was first raised informally in a letter dated 24th February 1930 addressed by Professor F. C. Hottes (then of the James Millikin University, Decatur, Illinois, U.S.A.) to the late Dr. C. W. Stiles, my predecessor in the Office of Secretary to the International Commission. In this letter Professor Hottes drew attention to the difficulties arising from the fact that the first valid type selection for *Lachnus* Burmeister, 1835, was that by Wilson (1910) who had then selected *Lachnus punctatus* Burmeister, 1835, whereas the species commonly accepted as the type species of this genus was *Lachnus fasciatus* Burmeister, 1835, selected a year later (1911), also by Wilson. At the same time Professor Hottes drew attention to the difficulties which existed also in determining the type species of the genus *Cinara* Curtis, 1835, in view of the fact that, when Curtis designated "*pini* Linnaeus" as the type species of this genus, he added a question mark after the word "Linnaeus", thereby throwing into doubt the action which he conceived himself to be taking. The correspondence, which then ensued, did not lead to the submission of an application to the Commission.

3. Among the papers transferred to my charge on my becoming Secretary to the International Commission, I found references to a possible application to the International Commission on this subject but the actual documents handed over to me did not include any of the earlier correspondence relating to this case. When in 1944 I was able to turn my attention to this case, I wrote to Professor Hottes, referring to the correspondence which he had had on this subject with Dr. Stiles and asking whether he proposed to submit an application to the International Commission. At the same time I wrote to Dr. S. A. Rohwer (Assistant Chief, Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture, Washington, D.C.), to whom it appeared (from other papers which had been transferred to me) that perhaps the earlier correspondence had been sent by Dr. Stiles; I asked that, if this was so, these papers should be returned for incorporation in the records of the International Commission.

4. In October 1944 I received a letter from Professor Hottes, with which he enclosed a copy of a paper entitled "The name *Cinara* versus the name *Lachnus*", which he had written shortly after the correspondence with Dr. Stiles referred to in paragraph 2 above and which had been published in November 1930 (*Proc. biol. Soc. Wash.* **43** : 185-188). In that paper Professor Hottes had set out the grounds which, as he then believed, justified the conclusion that Westwood (1840) had effectively selected *Aphis roboris* Linnaeus, 1758, to be the type species of the genus *Lachnus* Burmeister, 1835, and that Curtis (1835) had validly designated *Aphis pini* Linnaeus, 1758, to be the type species of the genus *Cinara* Curtis, 1835. Professor Hottes went on to say that he recognised that in a matter of this kind the opinion of an individual specialist possessed no official status; he suggested, therefore, that the International Commission should review the findings which he had reached and, having done so, should render an *Opinion* on the questions at issue. Professor Hottes added that he would be happy to present to the Commission a bibliography of the literature involved and to submit recommendations for the consideration of the Commission.

5. In December 1944 I received a letter from Dr. Rohwer enclosing the earlier correspondence relating to this case (which, as I had anticipated, had been filed in the records of the U.S. Department of Agriculture), together with a memorandum, dated 20th November 1944, on two cases, of which the present was one, which had been prepared by Dr. C. F. W. Muesebeck, Officer in Charge, Division of Insect Identification, Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture. The following is the text of the portion of that memorandum which relates to the present case:—

The case involving *Lachnus* and *Cinara* is not so easily settled. Following the exchange of correspondence between Hottes and Stiles, which is included among the papers I am returning, Hottes (*Proceedings Biological Society of Washington*, Vol. **43**, p. 185, 1930) published a statement which indicated that he considered the question to have been entirely cleared up. The significant passage in his note reads as follows: "Schumacher (1921) clearly established the fact that *Aphis roboris* Linné was the correct type of the genus *Lachnus* by quoting from the second edition of Burmeister's *Handbuch der Entomologie*, page 1006, wherein Burmeister states that his *Lachnus fasciatus* is a synonym of *Aphis roboris* Linné, the type set for *Lachnus* by Westwood in 1840." Unfortunately, he overlooked the requirement that for *roboris* to be eligible for type designation, it must have been included among the species originally cited by Burmeister when he proposed the generic name *Lachnus*. The fact that Burmeister himself later suppressed his *fasciatus*, an originally included species, as a synonym of *roboris*, does not alter the case, and Westwood's 1840 designation is invalid. The first valid type designation seems to be that by Wilson, 1910, who cited *punctatus* Burmeister, a species which was unrecognisable at that time but which has subsequently been made a synonym of *saligna* (Imelin, the type of *Tuberolachnus* Mordvilko, 1908). This generic name has been considered by most recent authors as a synonym of *Pterochlorus* Rondani, 1848, the type of which is *Aphis roboris*. If the zoological conclusions involving the specific names here are correct, *Pterochlorus* and *Tuberolachnus* are synonyms of *Lachnus*.

*Cinara* Curtis, 1835, was proposed with two included species, *Aphis pini* Linnaeus ? and *Aphis roboris*. Curtis himself definitely stated that "pini ?" was the type of his genus. It has been contended, however, that he did not know *pini* and that his description and illustrations applied to *roboris*. This is apparently correct. Theobald (*Aphididae of Great Britain*, Vol. **3**, p. 352, 1929) quotes Laing on this point, whose concluding statement is: "It is my contention

that you cannot base genera on species you do not know and that in nomenclature you must interpret what a man obviously meant," and he supports Laing's view. Accordingly, we have once more a troublesome problem resulting from the misidentification of a genotype. If the view held by Theobald and Laing is sustained by the Commission, the names *Lachnus* and *Cinara* are synonymous, but there still seems to be uncertainty as to which has priority, both having been published in 1835. If the Commission should agree with Theobald and Laing and then should find that *Lachnus* is the earlier name, some confusion would result from the necessity of treating, under *Lachnus*, the considerable number of Aphids now referred to the genus *Cinara*. It appears that greater stability would follow from the strict application of the Rules and the recognition of *pini* Linnaeus as type of *Cinara*.

**6.** At the time when the foregoing correspondence took place the world war was still in progress and it was impossible for the International Commission, either then or for some years thereafter, to take decisions on individual nomenclatorial cases. By 1947, however, the situation had sufficiently improved to make it possible to make a start in this direction and in November of that year advertisements in the prescribed form were issued in respect of a number of applications then awaiting attention, each of which involved a possible use by the Commission of its Plenary Powers. Among the applications so advertised was that relating to the generic names *Lachnus* and *Cinara*, the advertisement issued making it clear that the application received involved the possible use by the Commission of its Plenary Powers to designate (1) *Aphis roboris* Linnaeus, 1758, to be the type species of *Lachnus* Burmeister, 1835, and (2) *Aphis pini* Linnaeus, 1758, to be the type species of *Cinara* Curtis, 1835.

**7.** The foregoing advertisement elicited comments from two quarters:—

(1) **Professor Miriam A. Palmer** (*Colorado A. & M. College, Entomology Department, Fort Colorado, Colorado, U.S.A.*) stated (in a letter dated 13th January 1948):—"I am in full accord with both proposals under this file number."

(2) **Mr. F. H. Jacob, M.Sc.** (*Ministry of Agriculture and Fisheries, National Agricultural Advisory Service, Welsh Sub-Centre, Bangor, United Kingdom*) reported (in a letter dated 10th November 1948) that, after the publication of the foregoing advertisement in *Nature*, he had had correspondence on this subject with Dr. Hille Ris Lambers, who had expressed the opinion (1) that the type species of *Lachnus* Burmeister was *Lachnus fasciatus* Burmeister (= *Aphis roboris* Linnaeus), by selection by Westwood (1840) and therefore that there was no need for the Plenary Powers to be used to secure this end; (2) that "*Cinara* Curtis 1835 type '*pini* L. ?' is all right" and that he could not therefore understand why it should be considered that a suspension of the Rules was necessary in this case. As regards the application advertised in *Nature*, Mr. Jacob said: "From the point of view of one interested in Aphids, I consider that it is highly desirable that this proposal should be carried out." Mr. Jacob added: "From the point of view of an economic entomologist it is always a good thing to have these nomenclatorial problems straightened out and fixed once and for all, because it helps to avoid needless confusion of the literature."

**8.** In 1948 Professor Hottes decided to recast somewhat his application in regard to this case and to resubmit it, together with an application asking the International Commission to issue directions as to the manner in which the nominal species *Aphis pini* Linnaeus, 1758, should be interpreted. This latter question, though in itself entirely distinct from that which forms the subject of Professor Hottes' earlier application, is nevertheless closely bound up with it, owing to the designation (or attempted designation) of the above species by Curtis as the type species of the genus *Cinara* Curtis, 1835. The application in regard to the interpretation of the nominal species *Aphis pini* Linnaeus was received in November 1948. It has been assigned the Registered Number Z.N.(S.)547 (see pp. 166-173 of the present volume).

**9.** In the period 1948-1950 it was not possible for the International Commission to make any progress with the consideration of applications submitted to it for decision, partly because the Secretariat was fully engaged in the preparation and publication of the volumes of the *Bulletin of Zoological Nomenclature* (Volumes 3, 4 and 5) containing the *Official Records* of the discussions held by the International Commission on Zoological Nomenclature and by the International Congress of Zoology at their meetings held concurrently in Paris in July 1948, and partly because in one way or another the decisions (procedural and other) taken by the former body necessarily affected every application then awaiting consideration by the Commission. The *Official Records of Proceedings* in Paris were published in 1950, and, as soon as possible thereafter, Professor Hottes made such consequential changes in, and additions to, his two applications as were then seen to be required. These applications, so revised, are accordingly now submitted to the Commission for concurrent consideration.

**10.** Professor Hottes' application in regard to the names *Lachnus* and *Cinara* has, as its object, only the determination of the species to be accepted as the type species of the nominal genera so named. Incidentally, however, that application raises also a general question of principle in regard to the interpretation of Rule (a) in Article 30 in the *Règles*. In accordance with the decision by the Thirteenth International Congress that, in future, decisions on such matters are not to be given in *Opinions* relating to individual names (in the present case, the names *Lachnus* and *Cinara*) but are to be recorded separately in the Series entitled "Declarations" (see 1950, *Bull. zool. Nomencl.* **4**: 132-137), the question of principle referred to above has been treated as constituting a separate problem and has been allotted the Registered Number Z.N.(S.)715.\* A note examining the problem involved and putting forward a suggestion for dealing with it is submitted simultaneously with the present Report for consideration by the International Commission.

\* See pp. 188 to 190 in the present volume.

**PROPOSED ADOPTION OF A " DECLARATION " ON THE  
QUESTION WHETHER THE INSERTION OF A MARK OF  
INTERROGATION INVALIDATES A DESIGNATION OF A  
TYPE SPECIES FOR A GENUS MADE UNDER RULE (a) IN  
ARTICLE 30 OF THE " RÈGLES "**

By FRANCIS HEMMING, C.M.G., C.B.E.  
(Secretary to the International Commission on Zoological Nomenclature)

**(Commission's reference Z.N.(S.)715)**

The application (File Z.N.(S.)174) submitted to the International Commission on Zoological Nomenclature in regard to the generic name *Cinara* Curtis, 1835 (Class Insecta, Order Hemiptera), submitted by Professor F. C. Hottes, raises a small question of principle relating to the interpretation of Rule (a) in Article 30 of the *Règles*, which, in order to prevent the occurrence of similar problems, it would be convenient if the International Commission were to settle by the issue of a *Declaration*.

**2.** In the particular case in question Curtis established a new nominal genus to which he gave the name *Cinara* and of which he said that the type species was " *pini* Linnaeus ? "

**3.** For over half a century the meaning of the action so taken by Curtis has been the subject of discussion among Aphid taxonomists. Some have argued that the insertion by Curtis of a mark of interrogation after the word " Linnaeus " was intended to denote that Curtis only doubtfully designated *Aphis pini* Linnaeus as the type species of this genus ; others have held this indicated that Curtis was not personally acquainted with the Linnean species, which was, therefore, from his point of view, a *species inquirenda*. One author put forward the explanation that the insertion of this question mark was designed by Curtis to show that, in his view, the original *Aphis pini* of Linnaeus was a composite species and that, while he certainly intended that the type species of *Cinara* should be the species named *Aphis pini* by Linnaeus, whatever that species might turn out to be, he was not certain to which of two species confused together by Linnaeus the name *Aphis pini* was properly applicable.

**4.** As was inevitable, these discussions led to no finality and it was for the purpose of putting a term to these fruitless arguments that this case was submitted to the Commission for settlement. For purposes unconnected with the issue immediately under consideration, Professor Hottes has asked the International Commission to use its Plenary Powers to settle the question of the type species of the genus *Cinara* Curtis : he has not therefore asked, as he might have done, for a ruling from the Commission on the question whether the qualification added by Curtis, through the insertion of a question mark in the manner indicated above, invalidated the designation which he then made of a type species for that genus. It is for the purpose of obtaining a ruling on this general question that the present supplementary application is submitted to the International Commission.

5. In the present case we are concerned with a type designation made under Rule (a) in Article 30 and not with a type selection made under Rule (g) in the same Article. Nevertheless, it will be instructive to pause for a moment to examine what are the requirements laid down by Rule (g) and to compare those requirements with those prescribed in Rule (a). Rule (g) which provides a method of determining the type species of a genus, where the type species has not been determined by any of the preceding Rules (a) to (d) or Rule (f) by the selection of a type species by a later author. Attached to this Rule there is a supplementary provision that the expression "select a type species" is to be "rigidly construed." If therefore, in the present case, Curtis had been a later author selecting a type species of a previously established genus (instead of an original author designating a type species for a genus then being established by himself for the first time), there is no doubt that the insertion by him of a question mark, such as that which he inserted when designating the type species of his own genus *Cinara* would have invalidated the selection so made. For it would clearly be impossible to sustain an argument that on a "rigid" construction of the expression "select a type species" he had unequivocally selected *Aphis pini* Linnaeus to be the type species of the genus *Cinara* Curtis. When, however, we turn to the Rule (Rule (a)) governing the designation of the type species of a genus by the original author of that genus at the time when the generic name in question is first published, we find that there is no supplementary provision analogous to that contained in Rule (g), prescribing that the expression "designate a type species" is to be "rigidly construed."

6. The foregoing difference between Rule (g) and Rule (a) is due mainly to the fact that the supplementary provision now incorporated in Rule (g) did not form part of the original draft of the present Article 30 (which was substituted for the earlier text of this Article by the Seventh International Congress of Zoology at Boston in 1907) but was added at a later stage during the discussion of that draft in order to meet a point raised by the late Commissioner David Starr Jordan of Stanford University that it was essential that this Rule should be so drafted as to exclude from acceptance as type selections the numerous cases where authors had cited under a given previously published generic name a single species, either because that species alone was relevant to the purposes of the book or paper concerned (e.g. where a single species was so cited in a book or paper dealing only with a limited faunistic area) or because the author concerned wished to cite an example of the genus in question without reference to the purely nomenclatorial question of the species to be regarded as the type species of that genus. There is no evidence at all to suggest that, when this addition was made to Rule (g), any consideration was given to the question whether a corresponding addition should be made to Rule (a). Most probably no consideration was given to this question, for, whereas risk of doubtful cases arising under Rule (g), and consequently the need for special safeguards in that Rule was very great, the risk of similar cases arising under Rule (a) was very remote, for in the nature of the case the author of a new genus who wishes himself to designate a type species for that genus will almost invariably do so in a clear and unambiguous manner, cases where an author designates the type species of a genus established by himself in an obscure or qualified manner necessarily being extremely rare.

**7.** There is certainly nothing in Article 30 to suggest that a lower standard of precision is permissible under Rule (a) than that which is required under Rule (g). Accordingly, it may fairly be concluded even without any further clarification that Rule (a) should exclude from validity an original type designation made in an ambiguous or qualified manner, just as Rule (g) clearly excludes from validity a subsequent type selection made in such a manner.

**8.** Nevertheless, the fact, as we have seen, that discussion on this subject has been proceeding among specialists for over fifty years in the case of the generic name *Cinara* Curtis points strongly to the conclusion that, in order to avoid further waste of time of this sort, it is desirable that an express ruling should be given by the International Commission on this subject.

**9.** It is accordingly suggested, for the consideration of the International Commission, that it would be helpful if a *Declaration* were now to be rendered containing a ruling to the following effect: "For the purposes of Rule (a) in Article 30, the expression 'designate a type species' is to be rigidly construed and is not to be held cover a designation made in an ambiguous or qualified manner."



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### IMPORTANT NOTICE

All applications to the International Commission on Zoological Nomenclature should be addressed to Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, 28 Park Village East, London, N.W.1, England.

Zoologists are particularly requested to assist the work of the Commission by complying with the following requirements: (1) Applications should be submitted in duplicate; (2) applications should be typed, double-spaced, on one side of the paper only and with wide margins.